

**UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS**

UNITED STATES OF AMERICA, ET AL.,

Plaintiffs,

v.

AMERICAN AIRLINES GROUP INC. and
JETBLUE AIRWAYS CORPORATION,

Defendants.

Civil Action No. 1:21-cv-11558-LTS

**DECLARATION OF DENNIS W. CARLTON
IN SUPPORT OF AMERICAN AIRLINES GROUP INC. AND JETBLUE AIRWAYS
CORPORATION'S *DAUBERT* MOTION AND MOTION IN *LIMINE* CONCERNING
PLAINTIFFS' EXPERT'S MERGER SIMULATION MODEL**

I, Dennis W. Carlton, declare and state as follows:

1. I am the David McDaniel Keller Professor of Economics Emeritus at the Booth School of Business of The University of Chicago. I received my A.B. in Applied Mathematics and Economics from Harvard University and my M.S. in Operations Research and Ph.D. in Economics from the Massachusetts Institute of Technology. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology.
2. I specialize in the economics of industrial organization. I am co-author of the book *Modern Industrial Organization*, a leading text in the field of industrial organization, and I also have published over 100 articles in academic journals and books. In addition, I serve as Co-Editor of the *Journal of Law and Economics*, a leading journal that publishes research applying economic analysis to industrial organization and legal matters; serve on the Editorial Board of *Competition Policy International*, a journal devoted to competition policy; and serve on the Advisory Board of the *Journal of Competition Law and Economics*. I have also served as an Associate Editor of the *International Journal of Industrial Organization* and *Regional Science and Urban Studies*, and on the Editorial Board of *Intellectual Property Fraud Reporter*. I have been designated the 2014 Distinguished Fellow of the Industrial Organization Society.
3. In addition to my academic experience, I served as Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice ("Division"), from October 2006 through January 2008. My responsibilities included supervising approximately 50 Ph.D. economists, helping formulate antitrust policy toward ongoing proposed mergers, analyzing general antitrust policies both horizontal and vertical, and communicating such policies to foreign and domestic agencies, as well as to practitioners. I also served as a Commissioner of the Antitrust Modernization Commission, created by Congress to evaluate U.S. antitrust laws. I have served as a consultant to the Division and Federal Trade Commission ("FTC") on the Horizontal Merger Guidelines, as a general consultant to the Division and FTC on antitrust matters, as a member of the American Bar Association advisory committee that advises the incoming President on antitrust policy, as an instructor to judges on antitrust economics at the Federal Judicial Center, and as an advisor to the Bureau of the Census on the collection and interpretation of economic data.
4. I also am a Senior Managing Director of Compass Lexecon, a consulting firm that specializes in the application of economics to legal and regulatory issues and for which I served as President (of Lexecon) for several years. I have provided expert testimony before various U.S. state and federal courts, the U.S. Congress, and a variety of state and federal regulatory agencies and foreign tribunals.
5. I have studied the airline industry for over 40 years. I have published several papers on the airline industry. I also have served as an expert in numerous domestic and foreign court and regulatory matters involving airlines, including *United States of America, et al., v. US Airways Group Inc., et al.* (the challenge to the American Airlines / US Airways merger) and *Fjord v. AMR Corp.* (the challenge to that merger in bankruptcy court), and have served as a consultant to airlines involved in a number of proposed mergers and alliances.

6. American Airlines Group Inc. (“American”) and JetBlue Airways Corporation (“JetBlue”) entered into the Northeast Alliance (“NEA”) in July 2020, which they began implementing in February 2021. The NEA includes all American domestic and international flying out of four airports—three New York City area airports (John F. Kennedy International Airport (“JFK”); LaGuardia Airport (“LGA”); and Newark Liberty International Airport) and Boston Logan International Airport—and all JetBlue domestic and non-transatlantic international flying out of the same four airports.
7. In September 2021, the United States of America, several states and the District of Columbia sued American and JetBlue, claiming that the Northeast Alliance will eliminate significant competition between American and JetBlue that has led to lower fares and higher quality service for consumers traveling to and from those airports. In support of their claims, plaintiffs have filed expert reports, including two by Dr. Nathan H. Miller.
8. I was asked by counsel for American and JetBlue to evaluate claims that the NEA has reduced competition and harmed consumers. In doing so, I have reviewed Dr. Miller’s “simulation model,” and I have come to the following conclusions:
9. Dr. Miller evaluates the NEA as a merger. In my report and deposition, I explain why Dr. Miller makes an error by ignoring the revenue-sharing formula in the NEA and instead treating the NEA as a merger.
10. At the time of Dr. Miller’s first report, there were nine months of fare data available from the U.S. Department of Transportation Domestic Origin and Destination Survey database (often referred to as “DB1B”), a 10 percent quarterly sample of tickets sold by surveyed airlines. DB1B is a standard source of information for the airline industry and has been used in many published airline studies in the economic literature. Dr. Miller does not provide any analysis at all of the actual pricing data available for the period after the implementation of the NEA.
11. The key piece of analysis in Dr. Miller’s reports is a “simulation model” that attempts to predict future fare increases as a result of the NEA. Dr. Miller’s “simulation model” predicts large fare increases on a number of “nonstop overlap” routes. Dr. Miller uses the predicted fare increases from his simulation model to quantify consumer harm.
12. Dr. Miller’s “simulation model” is flawed and unreliable, and its predictions are inconsistent with the empirical evidence for several reasons, as I explained in my report and deposition.
13. As I explained in my report and deposition, one indication that Dr. Miller’s model is unreliable is that it generates estimates of marginal cost that are negative on a number of routes. These costs include various indirect profit opportunities created when a passenger buys a ticket, such as the ability to earn revenue from ancillary fees from that passenger. Dr. Miller fails to show that these indirect profit opportunities for American and JetBlue are large enough to offset the negative marginal costs he estimates. Therefore, even after removing these indirect profit opportunities from Dr. Miller’s negative marginal cost estimates, Dr. Miller’s marginal cost estimates remain negative on a number of routes.
14. Because of the role that marginal costs play in merger simulation, it is important to evaluate whether the inferred marginal costs (from the model) are reasonable. The economic

literature has recognized that negative marginal costs are generally implausible. This makes sense, given that negative marginal costs suggest an airline will save money (reduce its total “costs”) by serving an additional passenger—the opposite of reality.

15. Negative marginal costs have a significant impact on predicted fare effects in Dr. Miller’s model. In fact, I have found that several of the largest fare increases predicted by Dr. Miller’s model are associated with negative marginal costs.
16. In addition, and in line with my observation that his model is flawed, Dr. Miller’s simulation model makes predictions about fare increases that are inconsistent with actual fare changes since the implementation of the NEA. The weighted average fare increase predicted by Dr. Miller across the Boston nonstop overlap routes is 28.7 percent. The predicted price increase on Boston nonstop overlap routes range from 7.1 percent on Boston-Chicago, to 90.1 percent on Boston-Charlotte. The weighted average fare increase predicted by Dr. Miller across the JFK/LGA nonstop overlaps is 4.8 percent.
17. I calculated the actual change in average fares on each Boston and JFK/LGA nonstop overlap route between the second, third, and fourth quarters of 2019 and the second, third, and fourth quarters of 2021, respectively. My findings are as follows:
18. Between the second quarters of 2019 and 2021, the average actual change in fares on the Boston nonstop overlaps was -6.0 percent. Between the third quarters of 2019 and 2021, the average actual change was 1.3 percent; and between the fourth quarters of 2019 and 2021, the average actual change was -9.2 percent. The actual changes in average fares between the first, second, and third quarters of 2019 and 2021 on a route-by-route basis are shown in the following table, which is Table 6 from my expert report:

Predicted and Actual Fare Changes on Boston Nonstop Overlaps

Route	2019 Passengers	Dr. Miller Predicted	Actual 2019 vs 2021		
			Q2	Q3	Q4
Boston (BOS) - Washington National (DCA)	440,430	54.7%	-16.2%	2.6%	-22.2%
Boston (BOS) - Charlotte (CLT)	170,100	90.1%	-0.3%	-1.6%	-10.0%
Boston (BOS) - Philadelphia (PHL)	296,210	44.0%	11.6%	3.8%	-6.4%
Boston (BOS) - Los Angeles (BUR/ONT/LAX/SNA/LGB)	382,050	10.9%	2.1%	3.8%	13.0%
Boston (BOS) - Miami (MIA/FLL)	368,380	17.7%	-36.2%	-25.9%	-12.2%
Boston (BOS) - Phoenix (AZA/PHX)	140,690	32.1%	-11.3%	2.2%	7.3%
Boston (BOS) - Dallas/Fort Worth (DFW/DAL)	252,530	21.7%	2.5%	11.1%	-10.9%
Boston (BOS) - NYC (JFK/LGA)	298,590	12.3%	1.1%	-4.6%	-42.4%
Boston (BOS) - Chicago (MDW/ORD)	496,420	7.1%	-3.1%	14.0%	1.8%
Boston (BOS) - Rochester (ROC)	17,910	84.9%	31.0%	25.4%	-6.5%
Boston (BOS) - Syracuse (SYR)	8,540	60.1%	97.6%	69.8%	23.6%
Weighted Average		28.7%	-6.0%	1.3%	-9.2%
Weighted Prediction Error			34.6%	27.4%	37.8%

Sources: Dr. Miller’s backup materials; DOT DB1B data for 2021.

19. Between the second quarters of 2019 and 2021, the average actual change in fares on the 18 JFK/LGA nonstop overlaps was -12.7 percent. Between the third quarters of 2019 and 2021, the average actual change was -2.0 percent; and between the fourth quarters of 2019 and 2021, the average actual change was -16.8 percent. The actual changes in average fares between the first, second, and third quarters of 2019 and 2021 on a route-by-route basis are shown in the following table, which is Table 7 from my expert report:

Predicted and Actual Fare Changes on JFK/LGA Nonstop Overlaps

Route	2019 Passengers	Dr. Miller Predicted	Actual 2019 vs 2021		
			Q2	Q3	Q4
NYC (JFK/LGA) - Miami (MIA/FLL)	1,099,720	10.2%	-34.9%	-24.9%	-24.1%
NYC (JFK/LGA) - Los Angeles (BUR/ONT/LAX/SNA/LGB)	989,540	4.7%	-11.6%	-3.8%	-11.1%
Boston (BOS) - NYC (JFK/LGA)	298,590	12.3%	1.1%	-4.6%	-42.4%
NYC (JFK/LGA) - San Francisco (SJC/OAK/SFO)	563,420	2.4%	-11.1%	-0.5%	-17.0%
NYC (JFK/LGA) - Orlando (MCO)	577,130	4.0%	-29.0%	-12.4%	-20.2%
NYC (JFK/LGA) - Phoenix (AZA/PHX)	184,100	7.3%	-8.7%	-2.3%	-5.5%
NYC (JFK/LGA) - Las Vegas (LAS)	259,130	3.3%	-15.5%	3.5%	3.0%
NYC (JFK/LGA) - Raleigh/Durham (RDU)	217,500	8.0%	-6.3%	7.5%	-14.7%
NYC (JFK/LGA) - Austin (AUS)	162,860	6.1%	1.8%	1.5%	-17.2%
NYC (JFK/LGA) - Chicago (MDW/ORD)	1,001,620	1.1%	7.8%	23.1%	-18.0%
NYC (JFK/LGA) - San Diego (SAN)	158,610	2.2%	-10.0%	-5.7%	-11.5%
NYC (JFK/LGA) - Atlanta (ATL)	685,340	0.9%	-13.5%	2.0%	-14.3%
NYC (JFK/LGA) - West Palm Beach (PBI)	269,920	1.9%	-6.2%	7.3%	-10.1%
NYC (JFK/LGA) - Martha's Vineyard (MVY)	7,900	48.8%	-23.9%	-23.5%	-16.0%
NYC (JFK/LGA) - Charleston (CHS)	114,140	4.6%	1.2%	-6.1%	-16.7%
NYC (JFK/LGA) - Nantucket (ACK)	13,520	24.3%	-15.2%	-27.1%	-28.5%
NYC (JFK/LGA) - Portland, ME (PWM)	35,800	6.0%	-4.2%	-12.8%	-10.5%
NYC (JFK/LGA) - Savannah (SAV)	89,690	1.7%	-9.6%	3.6%	-5.4%
Weighted Average		4.8%	-12.7%	-2.0%	-16.8%
Weighted Prediction Error			17.5%	6.8%	21.6%

Sources: Dr. Miller's backup materials; DOT DB1B data for 2021.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 2, 2022 in Templeton, CA.



Dennis W. Carlton

CERTIFICATE OF SERVICE

I hereby certify that the foregoing document, which was filed with the Court through the CM/ECF system, will be sent electronically to all registered participants as identified on the Notice of Electronic Filing.

/s/ Daniel M. Wall
Daniel M. Wall